

Your Regional Positive Train Control Representative



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Rail. Right through

For an informal discussion to explore your Positive Train Control requirements and to find out how Interfleet can add value, please contact your regional representative, or alternatively:

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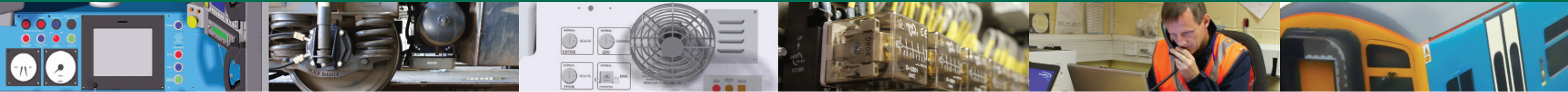
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POSITIVE TRAIN CONTROL



Background

In October 2008, the USA passed a new rail safety law requiring the implementation of positive train control (PTC). This was in response to a collision of a Metrolink passenger train with a Union Pacific freight train in September 2008, which led to multiple fatalities.

The new law sets a deadline of 2015 for the implementation of positive train control technology for the majority of the US rail network.

PTC is an advanced signal and train control technology to improve the safety, security and efficiency of freight, intercity passenger and commuter rail services.

PTC technology is capable of preventing train-to-train collisions, over speed derailments and casualties or injuries to roadway workers.

PTC systems require location, communication, control and user interface systems on the train to be linked to a ground based control system. In a PTC system the train receives information about its location and where it is allowed to safely travel. Equipment on board the train then enforces this.

Key objectives of PTC are:-

- Positive train stop and switch protection control
- Train separation and collision avoidance
- Permanent and temporary speed restriction enforcement
- Railroad worker wayside safety

Other benefits of PTC include:-

- Increased capacity and higher asset utilisation
- Improved running times and reliability
- Increased fuel efficiency and improved train diagnostics

Interfleet's Experience

Interfleet has extensive knowledge of advanced signal and train control systems through involvement in many state of the art projects over a number of years. Much of this work has involved the interface of the systems with vehicles, implementation strategies and optimisation of railway operations.

A sample of such projects that Interfleet staff have been involved in includes the following:

- North American train control systems for New Jersey Transit, Maryland Rail Commuter and Amtrak train services
- Various North American train control projects and feasibility studies during the 90's
- Support to Network Rail to ensure full compatibility for the introduction of the European Railway Traffic Management System (ERTMS) with the vehicles and operational requirements and constraints of the UK railway network
- Production of specifications and interface documents for the introduction of ERTMS into the UK
- Vehicle installation designs and turnkey fitment for Ansaldo for the first trial of ERTMS on the UK mainline network
- Development of strategic implementation and interoperability requirements and roll-out strategies for ERTMS for the Danish state railways
- Planning and execution of integration tests for the introduction of the universal ERTMS interface module, known as the Specific Transmission Module (STM) for Sweden, Norway and Finland
- Support with the implementation, testing and commissioning of ERTMS Level 3 for one of the world's largest copper mines in Chile
- Development of the vehicle interface requirements for the transmission based train control systems for the Circle and North East lines in Singapore

- Vehicle interface designs for the UK's Docklands Light Rail, a moving block train control system
- Vehicle installation design and first of class fitment for the national fitment of the Train Protection and Warning System (TPWS) in the UK and one class of locomotive in Australia
- Vehicle installation design of Automatic Train Protection (ATP) systems for Great Western and Heathrow Express train operations in the UK
- Automatic Train Operation (ATO) systems management, maintenance, assessment and reliability improvement on specific London Underground trains
- Feasibility study for the integration of the French automatic train protection system (TVM430) onto the channel tunnel shuttle locomotives
- Various investigations undertaken with respect to location technologies, including Global Positioning System (GPS), Global Navigation Satellite System (GNSS) and Micro Electromechanical Systems (MEMS)
- Various investigations and feasibility studies undertaken with respect to mobile communication technologies including telecommunications support for ERTMS bearer facilities, data connectivity for train support, support for the implementation of the Global System for Mobile Communications for Railways (GSM-R) on-train voice and data equipment
- Radio system feasibility studies, for example comparison of the GSM-R, TETRA and APCO 25 systems
- Application of Human Factors expertise in the development of ERTMS concept designs for 3 different classes of vehicles in the UK to ensure drivers operational effectiveness, efficiency and comfort
- Comprehensive vehicle surveys and data capture for computer aided design drawings and anthropometric modelling

Interfleet can offer a range of services that vary from the provision of engineers to augment clients existing technical/project teams, to the provision of turnkey services that cover all aspects of the project lifecycle.

The following is a non-exhaustive list of the services that Interfleet can provide:

System Evaluations

- Feasibility studies
- Implementation strategies
- Human factors and drivers cab design concept modelling
- Operational strategies
- Technical assessments
- Safety integrity analysis
- System concept and specification development
- Train/infrastructure interface specifications
- Location technology and mobile communications

System Trials

- Systems integration assessments
- Design and prototyping for retro fitment
- Interface to braking systems
- Commissioning and testing
- User manual production
- Rule book and safety case development
- Train crew training
- Trial management
- Trial fleet fitment
- Maintenance documentation
- Approvals management, including Notified Body requirements
- Electro magnetic compatibility (EMC) compliance

Fleet Implementation

- Systems integration
- Installation designs and application of human factors requirements
- Training
- Maintenance and operational documentation production
- Project management
- Procurement specifications
- Supply and fitment of materials and equipment
- Approvals and standards compliance management

How We Can Help You – Our Services

Interfleet has two North American offices - one in Philadelphia, USA and one in Burlington, Canada. These two offices are supported by a network of 20 offices located in 9 countries and on 3 continents. This enables us to harness and utilise our worldwide expertise and knowledge of advanced signal and train control systems.

Our international presence enables us to draw on our experience from involvement in many successfully established systems worldwide and apply it to the North American market.

